

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: PILLSBURY LAKE	Lake Area (ha): 18.21
Town: WEBSTER	Maximum depth (m): 3.0
County: Merrimack	Mean depth (m): 1.4
River Basin: Merrimack	Volume (m <sup>3</sup> ): 263500
Latitude: 43°16'56" N	Relative depth: 0.6
Longitude: 71°40'49" W	Shore configuration: 3.58
Elevation (ft): 415	Areal water load (m/yr): 53.30
Shore length (m): 5420	Flushing rate (yr <sup>-1</sup> ): 36.80
Watershed area (ha): 2247.8	P retention coeff.: 0.35
% watershed ponded: 3.4	Lake type: artificial

<u>BIOLOGICAL:</u>		27 January 1999	17 August 1998
DOM. PHYTOPLANKTON (% TOTAL)	#1	NO WINTER PLANKTON	DINOBRYON 80%
	#2	ANALYZED	RHIZOSOLENIA 7%
	#3		CHRYSPHAEELLA 6%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			6.95
DOM. ZOOPLANKTON (% TOTAL)	#1		KERATELLA 38%
	#2		NAUPLIUS LARVA 27%
	#3		CONOCHILUS 16%
ROTIFERS/LITER			522
MICROCRUSTACEA/LITER			316
ZOOPLANKTON ABUNDANCE (#/L)			879
VASCULAR PLANT ABUNDANCE			Very abundant
SECCHI DISK TRANSPARENCY (m)			2.4 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		11.6	9.0
BACTERIA (E. coli, #/100 ml)	#1		5
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : None

**CHEMICAL:**

Lake: PILLSBURY LAKE  
Town: WEBSTER

	27 January 1999		17 August 1998		
DEPTH (m)	1.0		1.5		
pH (units)	6.2		7.1		
A.N.C. (Alkalinity)	6.4		8.5		
NITRATE NITROGEN	0.06		< 0.05		
TOTAL KJELDAHL NITROGEN	0.30		0.60		
TOTAL PHOSPHORUS	0.004		0.019		
CONDUCTIVITY ( $\mu$ mhos/cm)	71.5		67.8		
APPARENT COLOR (cpu)	42		55		
MAGNESIUM			0.80		
CALCIUM			4.1		
SODIUM			8.3		
POTASSIUM			< 0.40		
CHLORIDE	14		12		
SULFATE	4		3		
TN : TP	90		32		
CALCITE SATURATION INDEX			2.7		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1998**

D.O. S.D. PLANT CHL TOTAL CLASS

**	3	6	1	10	Eutro.
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**COMMENTS:**

1. Pillsbury Lake was previously surveyed and classified in 1979 and was rated eutrophic in both years.
2. This is a man-made pond, created by building a dam on Deer Meadow Brook and flooding a wetland area. It is shallow and supports a very abundant growth of native aquatic plants. Herbicides were applied to the pond in an attempt to control the plant growth in 1979 through 1984 and again in 1999. The gap in treatment between 1984 and 1999 was not because of the success of the herbicide treatments; the plants generally return within a year after treatment because the area is ideal wetland habitat.

# Pillsbury Lake Webster



0 0.2  
Km

Launch

10

5

[illegible]

Map of the study area showing sampling locations and results. The map is an outline of a coastal region with numerous sampling points marked by letters (P, Y, N, W, U, S, M, b, T, A, V, C, B, I, S). A scale bar indicates 0 to 0.2 Km. A north arrow is present. A 'Launch' point is marked on the western coast.

[illegible]